CLAIMS

1. A collection of one or more microfluidic devices which together carry a plurality of microchannel structures (**101a-h**) each of which comprises a reaction microcavity (**104a-h**) in which there is a solid phase with an immobilized affinity ligand L, **characterized** in that
   (i) the plurality comprises two or more different sets of microchannel structures, and
   (ii) the affinity ligand L is directed to the same counterpart (binder, B) independent of set, and
   (iii) the sets differ with respect to
      a) the capacity for binder B per reaction microcavity and/or the capacity per unit volume of the solid phase in a reaction microcavity, and/or
      b) the base matrix of the solid phase

   between the sets but are equal within each set.

2. The collection according to claim 1, **characterized** in that the difference is with a factor ≥ 1.2 for at least one of the sets of the collection compared to the binding capacity for the set having the lowest binding capacity.

3. The collection according to any of claims 1-2, **characterized** in that at least one of said devices comprises
   a) at least two of said sets of microchannel structures, and/or
   b) only one set of microchannel structures, with the proviso that the collection comprises two or more devices which are different with respect to the kind of sets they carry.

4. The collection according to any of claims 1-3 being intended for separately performing one or more affinity protocols that differ with respect to the reactants involved and/or the order of addition of the reactants and/or the concentration range in which the reactants are used, each of said different protocols utilizing an affinity reaction between
   (i) a solute S, and

(ii) a conjugate comprising

(a) a binder B, and

(b) an affinity counterpart AC_S to the solute S,

characterized in that the affinity constant K_{L-B} for formation of the complex L--B between the affinity ligand L and the binder B, i.e. $K_{L-B} = [L][B]/[L-B]$, is at most 10^3 times, such as at most 10^2 times, the corresponding affinity constant for streptavidin and biotin.

5. The collection according to claim 4, **characterized** in that L is selected amongst biotin-binding compounds and streptavidin-binding compounds, respectively, or vice versa.

6. The collection of any of claims 4-5, **characterized** in that L has two or more binding sites for B.

7. The collection according to any of claims 1-6, **characterized** in

(a) that each set on a device is grouped into one or more groups of fluidly equivalent microchannel structures, and

(b) that each group is located to a particular subarea of the device.

8. The collection according to any of claims 1-7, **characterized** in that said reaction microcavity (**104a-h**) in at least one, preferably all, of said microchannel structures (**101a-h**) in the upstream direction is connected to a volume-metering unit (**106a-h,108a-h**).

9. The collection according to claim 7, **characterized** in that said volume-metering unit (**106a-h,108a-h**) is part of an inlet arrangement (**102,103a-h**) for liquid.

10. The collection according to each of claims 6-8, **characterized** in that said volume-metering unit (**106a-h,108a-h**) within at least one of said group(s) (**100**) are part of a distribution manifold for distributing liquid to the reaction microcavities (**104a-h**) of

the group, with the proviso that each of said at least one group (**100**) comprises two or more microchannel structures (**101a-h**).

11. The collection according to each of claims 7-10, **characterized** in that the inner wall of each of said volume-metering units (**106a-h,108a-h**) have a sufficient hydrophilicity for said unit to filled by capillarity once an aqueous liquid have entered the unit, and b) a valve (**109a-h,110a-h**) at its outlet end, for instance a passive valve.

12. The collection according to any of claims 4-11, **characterized** in that at least one of the solute S and its affinity counterpart AC_S, and/or at least one of the binder B and the ligand L comprise a structure selected amongst peptide structure including poly/oligo-peptide and protein structure, carbohydrate structure, lipid structure including steroid structure, nucleotide structure including nucleic acid structure, and polymeric structure.

13. The collection according to any of claims 1-12, **characterized** in that said solid phase is in a dry state, preferably comprising in addition to the solid phase one or more bed-preserving agents.

14. The collection according to claim 13, **characterized** in that at least one of said one or more bed-preserving agents is a microcavity adherence agent.